Performance Track
APRIL 11–14, 2005 • THE FAIRMONT HOTEL • CHICAGO, ILLINOIS
Members' Event

Performance Track Marks a Year of Growth and Renewal

On April 11–14, more than 750 individuals from all 50 states and five countries gathered in Chicago, Illinois, for the 2005 National Environmental Partnership Summit. The summit, which combined the annual meetings of the National Pollution Prevention Roundtable, the Compliance Assistance Providers' Forum, and the Performance Track Participants' Association, also served as the venue for the 2005 National Environmental Performance Track Members' Event.

EPA Region 1 Administrator Bob Varney congratulated Performance Track's new members, award winners, and Corporate Leaders.

The summit opened with a plenary speech by Clay Jones, chairman, president, and CEO of Rockwell Collins, a Performance Track Corporate Leader. Jones noted that Rockwell Collins has pioneered a "new way of thinking" in environmental protection that is driven by innovation and motivation rather than simple compliance. "We wanted to find creative ways to win," Jones said. The company developed a Lean Electronics program to eliminate waste, applying the tools of lean manufacturing and building a culture of waste reduction throughout the company.

Since 1992, the company has reduced its landfill wastes from 118 tons per $100 million in sales to 44 tons per $100 million in sales, a 60 percent reduction. The company has also established a lean supply chain. "Suppliers are learning, as we have learned, that the elimination of waste is good business," Jones said. Rockwell Collins has expanded its environmental commitment to include the communities around its facilities, creating a Green Communities program that funds environmental projects by community nonprofits. It also created a center to recycle computers and donate them to schools, which has diverted more than 17,000 desktop computers from landfills and accrued nearly 23,000 hours of volunteer time.

Bob Varney, administrator of EPA Region 1, recognized the 73 new members of Performance Track that have joined the program since last year's Members' Event, congratulated this year's award winners, and called special attention to the program's three Corporate Leaders, calling them "leaders among leaders."

Varney noted that 75 percent of the program's charter members renewed their membership in Performance Track last year, a testament to the staying power of the program. He described new Performance Track incentives developed during 2004 and noted that more are on the way. He described some of the important achievements of members to date, including reducing their collective water use by more than 1.3 billion gallons, enough to meet the water needs of New York City's 8 million inhabitants for a day, and reducing their energy use by more than 8.4 trillion BTUs, enough to power more than 80,600 homes for a year.

Varney said that Performance Track members are participating in a "historic shift" in how EPA approaches environmental protection, harnessing the positive spirit of industry, encouraging collaborative problem-solving, and making it easier for companies to sell environmental protection to their boards and customers. "If we expect companies to help us meet the mandated environmental goals that EPA and states are required by law to achieve, then we must make sure that we do everything we can to make companies that do the right thing more competitive, not less competitive," Varney concluded.

PRESENTATIONS AVAILABLE

Many of the presentations given at the meeting are available for downloading at **http://www.environmentalsummit.org/proceedings/**

Performance Track Corporate Leaders

Performance Track Corporate Leaders

Performance Track created the Corporate Leader designation to recognize companies that have multiple facilities in Performance Track and that demonstrate an exceptional corporate-wide commitment to environmental stewardship and continuous improvement. The first three Performance Track Corporate Leaders, selected by EPA and announced in early 2005, are Baxter Healthcare Corporation, Johnson & Johnson, and Rockwell Collins.

Baxter Healthcare Corporation
Deerfield, IL

J. Michael Gatling (center), corporate vice president, Global Manufacturing Operations, Baxter Healthcare Corporation, accepts the Performance Track Corporate Leader designation from EPA Acting Associate Administrator Stephanie Daigle and Region 1 Administrator Bob Varney.

A global medical devices, pharmaceuticals, and biotechnology company, Baxter has a strong history of environmental leadership, a vigorous program of promoting environmental improvement among its suppliers, and a policy of integrating environmental protection with other company functions. Eight of Baxter's 16 major facilities are Performance Track members, along with two of its smaller facilities. Among Baxter's future commitments as a Performance Track Corporate Leader are further reductions in energy use, further reductions in solid waste, increasing facility membership in Performance Track, and increasing the number of its key suppliers participating in EPA's Green Suppliers Network.

Johnson & Johnson
New Brunswick, NJ

Russell C. Deyo, vice president and general counsel of the executive committee at Johnson & Johnson, accepts the Performance Track Corporate Leader designation from Stephanie Daigle and Bob Varney.

Johnson & Johnson (J&J), a health care products and services company, uses an innovative system of environmental "dashboards" to track, monitor, and optimize its performance company-wide. It uses a customized design-for-environment process to evaluate environmental factors from cradle to grave for new and modified processes and products. J&J also has an established environmental steering committee, led by the vice chairman of the board, that reviews environmental performance, monitors emerging issues, and drives management accountability.

Forty of J&J's 46 major facilities are members of Performance Track. As a Corporate Leader, J&J has pledged to further reduce its greenhouse gas emissions and water use, and increase its use of paper packaging derived from sustainably managed forests or recycled content.

Rockwell Collins
Cedar Rapids, IA

Kent L. Statler, senior vice president of operations at Rockwell Collins, accepts the Corporate Leader designation from Stephanie Daigle and Bob Varney.

Rockwell Collins provides design, production, and support of communications and aviation electronics. Eight of the company's 14 major facilities, and two of its smaller ones, are Performance Track members. Rockwell Collins has incorporated a "Lean Electronics" philosophy into the way it does business, fostering a corporate culture that values innovation, the elimination of waste, and continual improvement. The company also has established a Lean Supply Chain, through which it encourages suppliers to eliminate waste and implement Environmental Management Systems. Among Rockwell Collins' commitments as a Performance Track Corporate Leader are a pledge to purchase 10,000 megawatt-hours of renewable energy certificates per year, improving the environmental performance of key suppliers, and reducing its purchases of chemicals.

Performance Track Award Winners

Performance Track Environmental Performance Awards

These awards recognize Performance Track members that have demonstrated exemplary environmental performance during their participation in the program.

Durango-McKinley Paper Company
Prewitt, NM

The Durango-McKinley Paper Company in Prewitt, New Mexico, produces paperboard for corrugated boxes. As a charter Performance Track member, Durango-McKinley committed to reducing its use of materials, water, and electricity and to reducing the amount of solid waste sent to landfill. The facility made improvements in all of these environmental areas through a variety of pollution prevention-oriented activities, e.g., operator training, preventative maintenance, maximizing the efficiency of process equipment, and working closely with suppliers. Durango-McKinley exceeded its materials use reduction goal by 1,000 tons and showed a 20 percent improvement in materials efficiency during its first three years of membership. This member reduced its water use by two million gallons per year and its landfill waste by over 3,200 tons. Finally, the facility reduced its annual electricity use by almost 5,000 MwH and showed an 11 percent improvement in electricity efficiency. Durango-McKinley has further demonstrated its dedication to continual improvement by renewing its Performance Track membership and committing to further reductions in energy, material, and water use.

Ideal Jacobs Corporation
Maplewood, NJ

Andrew Jacobs, president of Ideal Jacobs Corporation, receives an Environmental Performance Award from Performance Track Director Dan Fiorino (left) and Anthony Cancro (right), chief of staff for EPA Region 2.

Ideal Jacobs is a small custom label printer serving the telecommunications industry. Ideal Jacobs is committed to reducing its solid waste and hazardous materials use, and has successfully reduced its environmental footprint by shrinking its production of solid waste to a mere six percent of its 2001 levels. By linking waste amounts directly to employees' salaries and responsibilities, the firm has created an incentive to identify and prevent wasteful procedures. This facility also more than cut in half the hazardous materials used in its sheet-fed silkscreen operations by substituting toxic products with citrus-based cleaners.

Rohm and Haas – La Mirada Plant
La Mirada, CA

Rohm and Haas' plant in La Mirada, California, produces acrylic and vinyl emulsion polymers. Rohm and Haas committed to reducing its energy use, water use, hazardous solid waste, and NO_x emissions. Even though the facility has fewer than 100 employees and increased its production since 2001 by a third, it has shown tremendous progress towards all four Performance Track goals over its first two years of membership. In two years, the facility decreased its annual energy use by nearly 10,000 MMBtus through planned equipment shutdowns, less energy-intensive regulation of water temperature, and optimized steam usage. In both 2002 and 2003, the La Mirada plant showed annual improvements in water use efficiency of seven and eight percent, respectively, by redesigning processes and equipment. This Rohm and Haas facility reduced its annual hazardous waste stream by more than 10 tons by installing a new "drum stinger" to more effectively withdraw liquid materials from drums. It also nearly halved its annual NO_x emissions by optimizing boiler operations.

3M Nevada
Nevada, MO

The 3M facility in Nevada, Missouri, produces a wide array of products, including decorative and specialty films, for the global graphics industry. Through Six Sigma process improvements, 3M Nevada is showing impressive progress towards its commitments to reducing energy use, solid waste, VOC and toxic emissions to air. In its two years of membership in the Performance Track program, 3M Nevada has reduced its energy use by nearly 50,000 MMBtus through such improvements as optimization of thermal oxidizers and air handling units, reduction of burner flame-out on processing ovens, and waste heat recovery. It has improved its rate of solid waste generation through yield improvement and other projects. And, through projects to reduce solvent use, restructure products, and improve capture efficiencies, the facility reduced its VOC and toxic emissions by 57 percent.

Performance Track Award Winners

Performance Track Director's Award

The Performance Track Director's Award recognizes members that the director has selected for outstanding achievement in any one of several areas, including mentoring, recruiting, public outreach, and community leadership.

3M Corporation
St. Paul, MN

Kathy Reed, staff vice president of environmental health and safety operations at 3M, accepts the Performance Track Director's Award for Outreach from Norman Niedergang, deputy regional administrator of EPA Region 5.

3M is the recipient of Performance Track's first award for outreach at the corporate level. With the company's encouragement, formal discussions revolving around Performance Track at 3M Performance Track facilities (14 total) have become routine. When a new 3M facility joins Performance Track, the facility holds an event within six months to celebrate its membership and promote Performance Track.

Each 3M member facility regularly highlights progress achieved on environmental commitments made under Performance Track. Updates are included in internal newsletters at 3M Performance Track plants and are distributed to employees and 3M domestic plant management teams. A corporate intranet web page is also used for corporate-wide discussions related to 3M's Performance Track participation. Most external 3M publications and presentations include information about Performance Track.

Quarterly networking meetings are held among 3M Performance Track facilities where new program-related topics, regulatory and administrative incentives, and public outreach and reporting requirements are discussed. When a 3M facility applies to Performance Track, staff members at other 3M facilities make themselves available to assist with application preparation and review. Most outreach and recruiting events for Performance Track are done in tandem with sister facilities. As a result, five new 3M facilities submitted applications to Performance Track in 2004, five current 3M members submitted applications for renewal, and more than 30 companies received mentoring assistance for Performance Track membership by a 3M facility.

A sampling of forums in which Performance Track was prominently featured by 3M includes several Minnesota Environmental Initiative meetings, the Emissions Marketing Association's fall meeting, and other events held at local plants. 3M also has worked on flexible networking permits in states tied to its Performance Track membership.

Performance Track Outreach Awards

This award recognizes current Performance Track members who, in addition to being exemplary environmental stewards, make special efforts both internally and externally to inform employees and other organizational groups about the benefits of membership in Performance Track.

International Paper
Franklin, VA

Barbara D'Angelo, deputy director, Environmental Innovation and Assessment Division, EPA Region 3, presents a Performance Track Outreach Award to Jeffrey Shumaker, corporate EHS representative for International Paper.

International Paper (IP) has 14 U.S. facilities in Performance Track. On a daily basis at the Franklin Mill facility, approximately 2,100 tons of a variety of bleached virgin and recycled content paper is produced that is then used in copiers, lasers and inkjet printers, greeting cards, and cosmetic cartons. The facility's efforts to increase Performance Track membership are constant and widespread via meetings, conferences, and local and state publications. Throughout 2004, information about Performance Track was provided to numerous organizations, including, but not limited to, the Virginia Paper Council, the Environment Virginia Conference, the Franklin Chamber of Commerce Trade Fair, Franklin Mill's sister facilities, and local environmental fairs. Area school children also benefited from a number of environmental education programs sponsored by IP, Franklin Mill.

To help promote the program, all outgoing environmental correspondence from the Franklin Mill facility contains the Performance Track logo. Customer connection teams routinely use the facility's Performance Track membership status as a selling point for IP products. Each day, the Performance Track flag flies high above the mill's entrance as a constant reminder of the excellence associated with Performance Track and IP, Franklin Mill's commitment to continuous environmental improvement.

Performance Track Award Winners

Motorola GTSS Ocotillo
Chandler, AZ

Motorola's GTSS Ocotillo facility performs research and development for the communications industry. At every opportunity, this facility promotes Performance Track and celebrates its membership status. For example, an interactive kiosk in the lobby entrance, and environmental health and safety (EH&S) bulletin boards throughout the facility contain information about Performance Track. Electronic employee calendars at Motorola GTSS bear the official Performance Track logo, while global email from the facility makes periodic mention of Performance Track.

Additionally, members of the Arizona Environmental Strategic Alliance were formally introduced to Performance Track at meetings hosted by the Motorola GTSS Ocotillo facility. The Alliance is composed of a powerful group of businesses and utility companies within the state, the Arizona Department of Environmental Quality, and other environmental leaders.

Performance Track took center stage during Motorola's corporate EH&S Americas conference and its annual Earth Day celebration, which included a large audience of vendors and business leaders from surrounding municipalities. In the spring, Motorola GTSS Ocotillo hosted a successful regional Performance Track recruitment workshop where representatives of numerous businesses, organizations, and municipalities in the greater Phoenix community gathered to hear the Performance Track story and were encouraged to come aboard.

Pfizer, Inc.
Terre Haute, IN

Pharmaceutical products are manufactured and packaged at Pfizer, Inc., Terre Haute, where considerable attention is paid to Performance Track. Each site employee receives an annual presentation about Performance Track, including the latest updates on the facility's progress toward its beyond compliance commitments. Additionally, Pfizer Global Manufacturing environmental health and safety (EHS) directors, along with leaders of Pfizer North America and Puerto Rico manufacturing and distribution centers, routinely receive Performance Track updates.

Corporate staff members at the Terre Haute facility are continuously encouraged to promote Performance Track with other Pfizer groups outside of the manufacturing section.

During 2004, the Terre Haute facility provided several of its Pfizer sister facilities with application assistance for Performance Track membership. The facility inserts hardhat stickers bearing the Performance Track logo with each letter from the facility, as a reminder of its Performance Track membership.

In the local community, the facility has provided Performance Track presentations to elementary, middle and high school teachers, especially those involved in the sciences. Numerous contractors, community leaders, college professors, the local Audubon Society, and the Greater Terre Haute Area Chamber of Commerce have learned about Performance Track from Pfizer, Terre Haute. The facility also proudly displays the Performance Track flag at its entrance.

3M ESPE Dental Products
Irvine, CA

Megan Trempe, environmental engineer with 3M ESPE Dental Products, receives a Performance Track Outreach Award from EPA Region 9 Administrator Wayne Nastri.

3M ESPE Dental Products (3M ESPE), a division of the 3M Corporation and a charter member of Performance Track, manufactures products used by dentists and dental laboratories worldwide. A facility-wide celebration provided 3M ESPE a golden opportunity to highlight Performance Track to its employees, and invite others to follow its lead. This celebration was held in honor of meeting and exceeding Performance Track goals set in 2000, and to celebrate membership renewal for three more years. At subsequent events hosted by 3M ESPE, other 3M Performance Track facilities were challenged to host application workshops and membership renewal events, while the audiences—which included representatives of the California Voluntary Protection Program, managers and environmental leaders from local businesses, municipalities, and local and state regulators— were also challenged to seek membership and become Performance Track champions. 3M ESPE Dental Products has successfully guided others through the Performance Track application process and created valuable networking opportunities for other members.

Fostering Collaborative Stewardship

During the plenary session, participants discussed strategies to promote environmental stewardship and collaboration. The discussion was chaired by Jay Benforado, director of EPA's National Center for Environmental Innovation, who emphasized that the nature of environmental problems and their solutions demands a collaborative approach.

EPA officials launched the session by describing examples of collaborative stewardship programs. Lisa Lund, deputy director of EPA's Office of Compliance (OC), noted that her office uses a collaborative approach in its global settlement strategies, in which EPA discusses compliance issues with companies based on inspections of a sampling of facilities. OC also is launching a healthcare compliance assistance center for healthcare facilities and developed a compliance improvement project for Veterans Administration facilities.

> "Collaboration doesn't just happen; it has to be planned and executed well."
>
> Jay Benforado
> Director
> National Center for
> Environmental Innovation, U.S. EPA

Charles Auer, director of EPA's Office of Prevention, Pesticides, and Toxic Substances (OPPTS), described Design for Environment, a voluntary partnership that works with industry to incorporate environmental design into business decisions. Over the past 10 years, Design for the Environment has partnered with more than 200 entities to promote environmental stewardship through better design of products and processes. OPPTS is also pursuing collaborative relationships through the Green Suppliers Network, which encourages companies in the supply chain to "lean and green" their manufacturing processes.

Norman Niedergang, acting deputy regional administrator of EPA Region 5, discussed the Great Lakes Collaboration, which addresses water quality, toxics, and other environmental issues in the Great Lakes region. Thirteen of the toxics program's 17 goals will have been met by 2006, Niedergang said. He attributed the collaboration's success to well-established targets, a systematic process, narrowly defined problems, regular meetings with stakeholders, a professional facilitator, a commitment to transparency, and trust-building through relationships.

Following the presentations, Jay Benforado charged the group to answer the following questions:

1. What stewardship programs are working?
2. Why are they working?
3. What should EPA and states do better on stewardship programs?

Answers to the first question included such programs and initiatives as ENERGY STAR, curbside recycling programs, adopt-a-highway programs, lean manufacturing, and state-sponsored pollution prevention partnerships.

Participants answered the second question with suggestions such as stable and consistent funding of programs; well-defined entry criteria and measurable results; the involvement of universities and nonprofits; top-down commitments; good goal-setting; and early participation of states, localities, and stakeholders.

In response to the third question, participants said that agencies should focus on building trust, identifying clear missions, and developing economic drivers that will get businesses excited about environmental issues. EPA and the states should ensure that communications links remain in place, and where they don't exist they should be established. Agencies should become more involved in public education and clear communication, making citizens more aware of why it's important to value environmental stewardship. Agencies should also look for more ways to integrate new environmental initiatives with existing programs to avoid dilution and loss of focus.

Communicating the Corporate Value of Environmental Performance

Does good environmental performance enhance corporate value? The panelists in this session answered the question with a resounding "yes," backing up their assertions with solid evidence.

"If you buy more of the highly environmentally rated companies and less of the others, the environmental ones add value," said Hewson Baltzell, president of Innovest Strategic Value Advisers, a firm that ranks companies based on a range of environmental factors. Baltzell noted that State Street Global Advisors, a leading financial services provider, found that using environmental criteria added about 2 percent annually to a portfolio. Research at Columbia found that corporate bonds of companies rated highly by Innovest traded at lower spreads as the market considers them less risky.

Baltzell noted that the three Performance Track Corporate Leaders (Baxter Healthcare Corporation, Johnson & Johnson, and Rockwell Collins) are all AAA rated. "We analysts really appreciate Performance Track," he said. "To the extent that we can see a company is really committed, that definitely tells us something." Innovest encourages companies to take advantage of Performance Track because it can result in added value, increased profits, reduced risks, new product development, and cost savings.

Jeff Cantin, vice president of Eastern Research Group, Inc., talked about how EPA's ENERGY STAR® program is engaging the financial sector to promote energy efficiency in commercial buildings. "Energy and buildings are in the operations domain," Cantin said, "and energy is seen as an uncontrollable cost of doing business." Building operators cannot make a good case for improving energy efficiency in their buildings. But investors can. "Investors have the ear of the CEO and CFO," Cantin noted, "and fund managers and analysts are always looking to identify sources of added value or ways to reduce risk."

The key to getting investors interested, according to Cantin, is to build a case that energy is a strategic issue, a controllable cost, and is critical to reducing greenhouse gas emissions. ENERGY STAR commissioned studies on energy-intensive sectors, and found that when companies are rated on their energy management practices, the leaders outperform benchmarks by 6,000 basis points in the Real Estate Investment Trusts (REIT) sector. Strategic energy management also affects intangible value, Cantin said, with energy efficiency worth 10.4% of the REIT sector's market value.

As a result of EPA's outreach efforts, the two largest public pension funds in the United States, the California Public Employees' Retirement System (CalPERS) and the California State Teachers' Retirement System (CalSTRS) have joined ENERGY STAR and have each set a goal to reduce energy use in their core real estate holdings by 20 percent within five years. The energy efficiency plan was proposed by California's state treasurer as a way to achieve stronger returns for the state's pension funds by reducing the operating costs of their buildings. The treasurer's office estimates that the energy efficiency improvements will save CalPERS and CalSTRS a combined total of $40.6 million annually in energy costs and create 4,200 jobs.

Richard Wells, president of The Lexington Group, described the "seven habits of highly effective Environmental Management Systems" (EMSs), and noted that Wall Street is picking up on companies that have the best EMSs. Wells analyzed best-in-class EMSs, drawn from Performance Track Corporate Leaders and from a study by the Conference Board, to develop the following list of seven habits:

1. Corporate governance systems that give an effective "voice" to the environment at the highest level.
2. A broad definition of the scope of a company's environmental responsibility. A focus on external future issues is key.
3. Integration of the value chain and stakeholders in the EMS. (Wells cited the example of Baxter Healthcare's customer advisory group.)
4. "Big Hairy Audacious Goals." Goals should force innovation. "If you know how you are going to reach your goals, you are not pushing enough," Wells said. He cited Johnson & Johnson's Performance Track Corporate Leader commitment to a 14 percent absolute reduction in greenhouse gas emissions as an ambitious and hard-driving goal.
5. Integration of environment in key business decisions. Wells cited Rockwell Collins' Life Cycle Value Stream as an example.
6. Sound operational management and effective corporate monitoring of facility operations.
7. Organizational learning.

Wells actually sees EMSs as impediments to ambitious goals, because they make facilities comfortable with continuous incremental improvement. "The biggest motivator for big goals is personal exposure, such as a personal experience of the CEO. It's an emotional decision."

Using Environmental Management Systems to Deliver Business Value

This session focused on the best ways to use EMS—and ways to go beyond EMS—to deliver value for a business.

Roy Christianson, principal of Kestrel Management Services, said that for every $1 that a company reports spending in direct costs on environmental management, it's actually spending $3 to $10. "To the extent that you can reduce costs through an EMS, you're saving a lot," Christianson said. "A good auditing system within a good EMS will more than pay for itself."

Christianson provided an overview of current trends in environmental compliance management. "First, we're seeing that in-house compliance staff are being downsized over time," he said, leading to the outsourcing of compliance management contracts. "At the same time, the states have been cutting back on their compliance resources and turning more toward encouraging EMS as a way to ensure compliance. There's more self-regulation."

Some firms avoid becoming ISO-certified because of concerns that they may expose themselves to a finding of environmental non-compliance by an auditor, Christianson observed. But he noted that compliance performance should not affect certification, particularly if the company is engaging in a good corrective action program.

Philip Holman, operations director of Awaken Consulting Limited and Noel Deering, a consultant with Awaken Consulting, talked about going beyond EMSs to achieve the best environmental performance that a plant can deliver. "We've learned that EMSs are very good at delivering legal compliance, especially when externally certified," Holman said. But once that goal is achieved, he said, EMSs often result in improvements in systems rather than improvements in environmental performance. Furthermore, an EMS can't necessarily help a firm benchmark its performance; nor does it persist over the long term in keeping environment on a firm's agenda.

> "If you focus on compliance, you're only looking at outputs. We're saying you should look at inputs and process. If you manage those, the outputs will take care of themselves."
>
> Philip Holman
> Operations Director
> Awaken Consulting

"Delivering compliance is not necessarily the same as delivering performance," Holman said. "Performance is not about looking back to see how well you've done. It's about finding out how you perform today and how you will perform in the future."

An EMS generates a lot of data, but those data are valuable only if they lead to informed decision making. "In most EMSs, the information doesn't go to the right people," Holman argued. "It generally disappears into a black vortex, never to return." That's because most of the data are retrospective: they tell a firm how it performed. They don't show managers what's happening now so they can control it.

Improving performance requires real-time indicators from inputs and processes to show what's happening today. Holman and Deering described a case study in which they developed real-time "dashboards" to monitor environmental performance on a daily basis.

Holman and Deering summarized their findings with the following conclusions:

- An EMS is a very constructive starting point.
- The ultimate goal is not compliance; it is the best performance that a facility can deliver.
- To do that, don't rely on reports. You need to manage information.
- You need environmental performance indicators.
- If you want to be sustainable, ownership of this data must reside with Production.
- Indicators must be real time.
- You should integrate an environmental dashboard into the production dashboard that is used daily.
- You can then show how you affect the bottom line.

Assessment Methodologies for Environmentally Friendly Technologies

This session focused on ways to assess the sustainability or other environmental qualities of a technology or process.

Archie Beaton, executive director and founder of the Chlorine Free Products Association, described an approach to developing a sustainability index and certification process for paper products. The methodology involves reviewing a paper producer or recycler's sustainable forestry guidelines, its environmental policies and Environmental Management Systems, mill processes, environmental risk management system, product stewardship, compliance, public information, and employee recognition. Certification is based on third-party accountability and scientific review.

David Burdick, principal at Sustainable Steps, discussed a methodology for certifying ecologically sustainable production, based on the concept of an ecological footprint. Impacts are calculated in terms of ecological land equivalents: For example, 1 kilowatt-hour of fossil-fuel-generated electricity is equivalent to 20 square feet of land. Ecological land equivalents (or other biophysical indicators such as air, freshwater, and ocean) could be calculated for companies and countries. Burdick said that to be sustainable, a company should aim to have an ecological footprint of 1 square mile or less per $1 million in revenue.

Maria Socolof, senior scientist with Abt Associates, discussed using life-cycle assessment to explore cleaner solder technologies under the Lead-free Solder Project, a partnership between EPA, the electronics industry, and other stakeholders. The project's primary goal was to evaluate the life cycle environmental impact of lead-free solders that are used for attaching components to circuit boards. The first step in life-cycle assessment is to define the boundaries of what you'll be analyzing, Socolof advised. Life-cycle assessment typically includes analysis of upstream inputs, manufacturing/recycling, downstream (market), and finally end of life (recycling, incineration, landfilling, and unregulated disposal).

Tim Lindsey, manager of the pollution prevention program at the Illinois Waste Management and Research Center, described the development and lessons learned from a three-state technology diffusion initiative. "We found early on that, while we think good ideas will sell themselves, this is not the case with pollution prevention," Lindsey said. "Awareness is not enough to lead to implementation."

> "Raising awareness of a pollution prevention technology is not enough to lead to its implementation."
>
> Tim Lindsey
> Manager
> Pollution Prevention Program
> Illinois Waste Management and Research Center

In order to be successful, Lindsey said, a new pollution prevention technology must have the following characteristics:

- Present a relative advantage over the idea it supersedes.
- Compatible with existing values, past experiences, and needs of potential adopters.
- Not too complex
- Observable: customers need to see a demonstration of it.
- Trialable: customers need to be able to try it out for themselves.

Based on these findings, the project team developed a new technical assistance model in which they work with the leaders of a sector and get them to implement best practices, so they pull the rest of the sector forward. The team recruits mentors, and establishes demonstration sites to showcase the new technologies. With this approach, the team has achieved a 73 percent implementation rate to date.

Changing MACT Rules to Promote Pollution Prevention

This session discussed EPA's proposed Maximum Achievable Control Technology (MACT) rule that will provide alternative compliance options for pollution prevention.

Rick Colyer, environmental engineer with EPA's Office of Air Quality Planning and Standards, gave an overview of the proposed MACT rule and its current status. The pollution prevention amendments were proposed in May, 2003, and are voluntary: sources subject to MACT may choose to use them but are not required to do so. The proposed amendments are designed to encourage and promote pollution prevention and to provide regulatory relief. The amendments also would provide additional incentives for Performance Track facilities.

The amendments will provide two new options for facilities:

- **Option 1:** Facilities that completely eliminate hazardous air pollutant (HAP) emissions using pollution prevention can apply to be no longer subject to the MACT standard.
- **Option 2:** Facilities that use pollution prevention to reduce HAP emissions to at least the level required by the MACT standard can apply for alternative monitoring, reporting, and recordkeeping requirements.

Sources would submit an application to the permitting authority, which would have 45 days to review. Written approval would serve as the federally enforceable agreement. Sources would be required to provide a 30-day prior notice if HAP emissions have resumed, pollution prevention measures are discontinued, or HAP reductions are not maintained. Requirements and provisions would incorporated in the source's Title V permit, or if HAP use is completely discontinued using Option 1 and there was no other reason for a permit, the title V permit could be rescinded.

EPA is currently developing responses to the comments it received. Colyer said the Agency hopes to promulgate the final amendments in about 6 months, although the final release date will depend on OMB review and other factors.

> "The proposed MACT rule would provide relief to our members and offer further incentive for them to reduce hazardous air pollutants."
>
> Alison Keane
> Counsel
> National Paint and Coatings Association

The rule and a fact sheet are available at **www.epa.gov/ttn/atw/gp/gppg.html**

Alison Keane, counsel for the National Paint & Coatings Association, a Performance Track Network Partner, talked about how changes in MACT could affect the paint and coatings industry. She noted that MACT is a supply chain issue for her industry; manufacturers need to work with their raw materials suppliers and customers to ensure that product reformulations work for them. Keane emphasized that the new proposed MACT rule would provide relief and further incentive to reduce HAPs in her industry. "We need a way to get out of the "once in, always in" policy," she said. "The new MACT rule provides a real incentive for paint and coatings manufacturers to continue to reduce HAPs over and above regulatory limits."

Gary Hunt, director of pollution prevention and environmental assistance at the North Carolina Department of Environment and Natural Resources, focused in more detail on the "once in, always in" issue with MACT. "Once you get into the system, you're in forever even if you get rid of your HAP emissions," Hunt said. "You still have to pay fees and submit reports." The new MACT rule would change that and create a huge incentive for companies to invest in pollution prevention technology, Hunt said. "The biggest incentive is that you wouldn't need a permit [if you reduce your HAP emissions to zero]," he said. "Not needing a permit, not having to do the recordkeeping is a tremendous sell for a company."

Ed Clausen of the University of Arkansas provided a technological perspective, describing a new pollution prevention process that uses bacteria to remove cyanide during the manufacturing of carbon black, and convert it to acetic acid, which can be sold. Clausen said that the initial capital cost for implementing the technology is $40 million, but the revenue from acetic acid sales would be $40.75 million/year. Cash flow is $20 million/year with a return on investment of 51 percent. The process can also be modified to produce ethanol instead of acetic acid.

Performance Track Partnership Efforts

This session provided an update on Performance Track's partnerships with states. Eileen McGovern of Performance Track talked about the beneficial results of federal-state partnerships. McGovern pointed out that states are doing the bulk of environmental protection work in the U.S.: 75 percent of EPA programs are delegated to states, and states take the majority of enforcement actions.

With Performance Track, EPA has taken a collaborative approach with states, providing dedicated staff, setting up a monthly call with EPA and another for states to just talk among themselves. Performance Track also established a listserv, a "states only" section of the Performance Track website, and an annual state conference. Performance Track has nine Memoranda of Agreement (MOA) in place with states (Texas, Virginia, Massachusetts, Colorado, Tennessee, Georgia, Maine, Utah, Washington), and others are under negotiation.

Performance Track's goals for working with states in 2005 and beyond include developing partnerships with all states, integrating support for national and state performance-based environmental leadership programs into MOA states' environmental agreements with EPA,

increasing MOA participation by 33 percent, increasing cross-membership (facilities that are members of both Performance Track and a state performance-based program), using flexibility in state-EPA Performance Partnership Agreements and Performance Partnership Grants to drive innovative approaches and cross-cutting initiatives, and using state grants to provide flexibility and administrative ease while ensuring accountability.

David Paylor, deputy secretary of natural resources in Virginia, described the recent survey and report by the Environmental Council of the States (ECOS). The initiative was launched at a breakfast meeting last October between former EPA Administrator Mike Leavitt and state environmental commissioners. Leavitt's view was that Performance Track should become a nationally recognized brand, and he wanted states to support that. But while the states agreed that the program has a lot of promise, they noted that the transaction costs of the program's current incentives are too high. Leavitt then asked what the states thought it would take to make these programs successful. Paylor agreed to coordinate the states' response to Leavitt's question, and conducted a survey of state environmental commissioners and program participants to get their recommendations on what EPA would need to do differently to take Performance Track to the next level.

Based on the survey results, which included feedback from 41 states, the team produced a report that they presented to Leavitt in January 2005. The report included recommendations for actions, centering on four key areas:

1. **Support state programs.** "It's one thing to get the top people to support performance-based programs; it's another to get the permit writers to buy into that," Paylor said. Performance-based programs represent an impediment to the traditional way that permit writers have been rewarded for getting permits off their desks. Furthermore, Paylor noted that states do not currently receive credit from EPA for many of the performance-based activities that they undertake, and this needs to change. Performance Track also should be integrated into state guidance documents.
2. **Promote cultural change.** Performance-based programs need to be better integrated into EPA's culture, to build support beyond senior managers.
3. **Provide better incentives faster.** "There's no silver bullet for this," Paylor said. "We need to have a litany of things."
4. **Conduct more strategic recruitment and marketing.** "EPA needs to do a better job of communicating about Performance Track to the conservation community, states, and members," Paylor said. The Agency needs to develop a long-term strategy to brand Performance Track and to identify and target sectors of opportunity for increased recruitment efforts.

In February, David Paylor, along with several representative state spokespersons, presented the report to EPA's Innovation Action Council (IAC). The IAC recommended moving forward, but suggested initially narrowing the focus to state support and integration of performance-based programs. A final report and proposal are scheduled to be presented by the end of 2005.

Anne Vogel-Marr, president of the Performance Track Participants' Association (PTPA), talked about PTPA's outreach efforts to states. PTPA has developed a state outreach workgroup and has selected Performance Track members to be outreach coordinators in 14 states. The goals of the outreach effort are to get Performance Track widely accepted as a better way of doing business and to help mobilize the states to support Performance Track and state performance-based programs.

Update on Performance Track Incentives

Sara Ethier, director of environmental operations at 3M and chair of the Performance Track Participants' Association's Incentives Committee, summarized "a very busy, successful, productive year" of progress in developing new incentives for Performance Track members. The program made progress on new incentives for air, water, and solid waste, described in more detail below.

Solid Waste: Bob Sachs, environmental scientist at EPA, spoke about waste incentives. Currently, Performance track has 145 members that are large-quantity generators under the Resource Conservation and Recovery Act (RCRA). The first Performance Track Rule, published on Earth Day, 2004, allows these facilities up to 180 days (and 270 days if the waste is transported 200 miles or more) to accumulate hazardous waste without a RCRA permit or interim status, provided that these generators meet certain conditions. The RCRA provisions in the first Performance Track Rule are currently available in 16 states and Puerto Rico.

In the last 12 months, Performance Track worked with states on implementation issues, developed burden reduction rule provisions in response to comments, progressed on additional RCRA incentives for the Performance Track members' rule, and held a productive meeting with EPA's Office of Solid Waste and Emergency Response.

EPA intends to finalize its new RCRA Burden Reduction Rule this year, Sachs said. The proposed rule included provisions for Performance Track facilities to reduce self-inspections of tanks, tank systems, containers, container storage areas, containment buildings, and areas subject to spills. Currently these must be inspected daily, a frequency that could be reduced to monthly for Performance Track facilities. The Agency will finalize some or all of these areas with consideration of public comments.

The Agency expects to propose additional RCRA Incentives for Performance Track members this year, including performance-based tank and other container standards, reduced duplication of RCRA air standards and Clean Air Act requirements, more flexible permit modifications, and extension of standardized permits to accept off-site waste.

Water: Richard Kashmanian, senior economist at Performance Track, discussed the program's current water-related incentives and plans for future ones. Kashmanian described the meeting held between senior officials with Performance Track and EPA's Office of Water in September 2004, attended by 25 Performance Track members, which included a lengthy discussion on streamlining National Pollution Discharge Elimination System (NPDES) permit reviews for Performance Track members. The process for expediting those permit reviews is now underway.

"The Office of Water is very interested in having more permittees participate in Performance Track," Kashmanian said. "They see a link between more members and better achievement of their goals." Performance Track and the Office of Water are exploring additional water-related incentives, such as reductions in NPDES monitoring and reporting for facilities that can show that they are significantly below their limits, and working to incorporate voluntary pollutant reductions in the development and revision of effluent guidelines.

Kashmanian also noted that EPA recently began encouraging states to provide Performance Track members with more favorable terms for Clean Water State Revolving Fund (CWSRF) loans. The CWSRF loans would help Performance Track members achieve environmental commitments that may be important to local and state environmental priorities. The support also would encourage facilities to increase community involvement, perhaps linking facilities with watershed groups.

Air: Chad Carbone, program analyst with Performance Track, talked about the program's air incentives. The first incentive, created in the first Performance Track Rule, involves reduced reporting frequency for members that are subject to MACT: Performance Track members may now submit reports once a year instead of every six months.

Carbone also discussed the proposed MACT rule described on page 10 (see "Changing MACT Rules to Promote Pollution Prevention").

A third incentive involves prioritizing flexible air permits under Clean Air Act Title V for Performance Track facilities. These permits would allow Title V sources to have advance approval for changes that are expected to happen throughout the life of the permit, such as changes in methods of operation, modifications to equipment, changes in emission factors, and types of pollution control equipment. These permits provide more flexibility in terms of how a facility is able to operate, offer more certainty up front, and simplify the Title V permit. Carbone said that EPA is currently drafting three permits, and has been working on a draft rulemaking to codify some of what the Agency has done with flexible permits in pilot efforts.

Habitat Management: Creating a Return on Stewardship

This session focused on how Performance Track and the Wildlife Habitat Council (WHC) are working collaboratively with companies and facilities to enhance and restore wildlife habitat on corporate lands.

Tim Bent, director of environmental affairs at Bridgestone Americas Holdings, described his company's joint participation in Performance Track and WHC, calling it a "natural fit." Bridgestone-Firestone has been working with WHC since 1996 to enhance lands for wildlife and create community assets. The company currently has six facilities in Performance Track. "Both programs provide excellent benefits," Bent said, "including environmental improvement, employee pride, increased trust, good community relations, and good regulatory relationships."

Working with WHC for habitat improvement adds another dimension to environmental performance, Bent said. "Instead of being less bad, you're being more good. A habitat project gives you an opportunity to talk about what you do; it demonstrates a culture of care. People can really understand more trees, more birds, more butterflies—a healthier environment."

Bent described wildlife habitat projects at two Bridgestone-Firestone facilities, one in Oklahoma City and one in Warren County, Tennessee. The Oklahoma City plant converted a RCRA land treatment parcel into a WHC-certified wildlife habitat, working with regulators and WHC to establish management plans and goals. The Warren county plant also has a WHC-certified habitat project and is starting a Corporate Lands for Learning program. The project promotes employee and community involvement, and improves habitat for native cavity-nesting birds, butterflies, bees, hummingbirds, and grassland birds.

Janice Hotz, plant engineering and environmental safety and health leader at Monsanto's Muscatine, Iowa plant, talked about benefits of participating in both WHC and Performance Track. The facility is a charter member of Performance Track and was recognized recently by EPA and WHC for its exemplary performance in environmental management and wildlife habitat restoration. It has two main habitat projects: a nature preserve and a prairie restoration project.

> "Performance Track and WHC are a natural fit."
>
> Tim Bent
> Director, Environmental Affairs
> Bridgestone Americas Holdings

The 510-acre Big Sand Mound Nature Preserve is co-owned by Monsanto and Mid-American Energy. It's a very diverse ecosystem, with lots of rare plants and unusual species. The sand prairie restoration project is on 140 acres of former agricultural land, owned by Monsanto. The Big Sand Mound Preserve is a certified WHC habitat; the sand prairie is not yet certified, but Monsanto is working with WHC to obtain certification. Hotz said that Monsanto's habitat efforts demonstrate to the local community that the company "walks its talk." The habitat projects provide boundary areas for manufacturing and erosion control, and support habitat for local populations of pheasant and deer, as well as for migrating butterflies. They also provide a community rest and relaxation area and create opportunities for positive media attention.

Stephen Genua, staff forester at Pepco Holdings Inc., described wildlife habitat improvement projects on power line rights-of-way in the Washington, DC area. Pepco manages much of its 10,000 acres of rights-of-way for wildlife, working with EPA, WHC, and the U.S. Fish and Wildlife Service. Pepco developed a WHC-certified meadow management program to reduce the amount of trees and other high-growing vegetation under the powerlines.

The benefits for Pepco include positive publicity and reduced maintenance costs. For example, Pepco created a butterfly habitat area that is used by 49 species and reduced Pepco's operating costs by 35 percent.

For more information on WHC, please visit **www.wildlifehc.org**

"Learning How to Behave on Earth"

Gunter Pauli, founder and director of Zero Emissions Research and Initiatives (ZERI), closed the conference with an inspiring talk about seeking design ideas from nature, developing truly innovative solutions to environmental problems, and educating the next generation.

Pauli, who also founded Ecover, a global ecological cleaning products manufacturer, left the business world at the age of 37 to dedicate himself to research, implementation, and education.

He advocates using nature as an inspiration for designs and technological solutions. "Nature cleans without soaps. How can we clean without detergents?" he asked. "How can we create color without color pigments? How can we fly without making any noise? How can we cool the air without air conditioning? How can we have water without pumps?" Nature, he said, can do all those things.

For example, Pauli pointed out that the zebra's black and white stripes provide air conditioning by creating adjacent zones of low and high pressure. "If you paint buildings black and white, it creates natural circulation," he said.

"We must realize that we're just learning how to fit in," Pauli said. "The cockroach has been around 250 million years; good luck killing it. Those that stay on are the survivors. We are learning how to behave on earth."

Pauli described innovative approaches to reducing waste in the coffee industry (growing shiitake mushrooms on coffee bean byproducts), producing porous asphalt, and creating products from recycled windshield materials. He talked about the Las Gaviotas reforestation project in Colombia, which planted 20,000 acres of dry savannah with Caribbean pine trees. Las Gaviotas is now a net supplier of drinking water, and also sells pine resin to paint and paper industries. Water is pumped by seesaws, operated by children. Water bottles are shaped like Lego toys for reuse by kids at home and school. Sales from Las Gaviotas water are helping to finance further reforestation efforts in the community, which will eventually be self-sustaining through sales of forest products.

Educating children is a top priority for Pauli. "We can't do anything long-term if we don't reach out to kids," he said. ZERI has identified 1,000 scientific themes that it thinks everyone should know, and has taught those themes to more than 100,000 children in Brazil. "We see they can do it." ZERI is launching a series of 36 bilingual fables to help teach these themes.

Gunter Pauli gave the closing keynote address on his work with the Zero Emissions Research and Initiatives organization.

Pauli called for positive approaches to environmental protection, using creativity and innovation. "We need a new dream," Pauli said. "If you're not having new dreams, you must be asleep."

For more information, **visit www.zeri.org**

> "We have to always do better than we think we can do."
>
> Gunter Pauli
> Director
> Zero Emissions Research and Initiatives